

S/N To be assigned

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Macken et al.	Examiner:	Unknown
Serial No.:	To be assigned	Group Art Unit:	Unknown
Filed:	June 27, 2003	Docket No.:	30874.0143USU1
Title:	NEGATIVE THERMAL EXPANSION DIELECTRICS FOR THERMAL POLE TIP PROTRUSION COMPENSATION		

CERTIFICATE UNDER 37 CFR 1.10:

"Express Mail" mailing label number: EV322885593US
Date of Deposit: June 27, 2003

I hereby certify that this paper or fee is being deposited with the U.S. Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

By: 
Name: John Junkers

INFORMATION DISCLOSURE STATEMENT (37 C.F.R. § 1.97(b))

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

With regard to the above-identified application, the items of information listed on the enclosed Form 1449 are brought to the attention of the Examiner.

This statement should be considered because it is submitted within three months of the filing date of the above-identified application, which is not an application under 37 C.F.R. § 1.53(d). Accordingly, no fee is due for consideration of the items listed on the enclosed Form 1449.

In accordance with 37 C.F.R. § 1.98(a)(2), a copy of each document or other information listed on the enclosed Form 1449 is provided.

No representation is made that a reference is "prior art" within the meaning of 35 U.S.C. §§ 102 and 103 and Applicants reserve the right, pursuant to 37 C.F.R. § 1.131 or otherwise, to establish that the reference(s) are not "prior art." Moreover, Applicants do not represent that a reference has been thoroughly reviewed or that any relevance of any portion of a reference is intended.

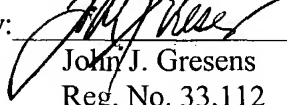
Consideration of the items listed is respectfully requested. Pursuant to the provisions of M.P.E.P. 609, it is requested that the Examiner return a copy of the attached Form 1449, marked as being considered and initialed by the Examiner, to the undersigned with the next official communication.

Please charge any additional fees or credit any overpayment to Deposit Account No. 13-2725.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O.Box 2903
Minneapolis, MN 55402-0903

Dated: June 27, 2003

By: 
John J. Gresens
Reg. No. 33,112

JJG/kaf



Date Mailed: June 27, 2003

Sheet 1 of 2

FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)	Docket Number: 30874.0143USU1	Application Number: To be assigned
	Applicant: Macken et al.	
	Filing Date: June _____, 2003	Group Art Unit: Unknown

U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,567,239	May 2003	Hasegawa et al.			
	5,140,481	Aug. 1992	Cain et al.			
	4,905,110	Feb. 1990	Krum et al.			
	6,134,076	Oct. 2000	Boutaghou et al.			
	6,289,564	Sept. 2001	Novotny			
	5,943,189	Aug. 1999	Boutaghou et al.			
	5,596,461	Jan. 1997	Stefansky			
	5,185,681	Feb. 1993	Volz et al.			
	5,262,911	Nov. 1993	Cain et al.			
	5,514,360	May 1996	Sleight et al.			
	2003/0090834	May 2003	Kamarajugadda et al.			
	6,445,541	Sept. 2002	Boutaghou et al.			
	5,668,689	Sept. 1997	Schultz et al.			

FOREIGN PATENT DOCUMENTS							
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
		Auciello, Orlando et al. "Annual Review of Materials Science." Volume 28, 1998.
		Sutton, Michael S. and Talghader, Joseph. "Micromachined Negative Thermal Expansion Thin Films." Department of Electrical and Computer Engineering, University of Minnesota.
		Kofteros, M. et al. "A preliminary study of thermal expansion compensation in cement by ZrW ₂ O ₈ additions." Department of Civil Engineering, The University of Texas at El Paso. December 5, 2000.

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

Date Mailed: June 27, 2003

Sheet 2 of 2

FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)	Docket Number: 30874.0143USU1	Application Number: To be assigned
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FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
		Martinek, Charles A. et al. "Subsolidus Equilibria in the System," <u>Journal of the American Ceramic Society, Ceramic Abstracts</u> . March 1970. Volume 53, Number 3, Pgs 159-161.
		Martinek, Charles et al. "Linear Thermal Expansion of Three Tungstates," <u>Journal of the American Ceramic Society, Ceramic Abstracts</u> . April 1968. Volume 51, Number 4, Pgs 227-228.
		Ernst, G. et al. "Phonon density of states and negative thermal expansion in ZrW ₂ O ₈ " <u>NATURE</u> , November 12, 1998, Volume 396, issue no 6707 Pgs 147-149.
		Graham, J. et al. "A New Ternary Oxide, ZrW ₂ O ₈ ," <u>Journal of the American Ceramic Society, Ceramic Abstracts</u> . November 1959. Volume 42, Number 11, Pg 570.
		Mary, T.A., et al. "Negative Thermal Expansion from 0.3 to 1050 Kelvin in ZrW ₂ O ₈ ," <u>SCIENCE</u> . April 5, 1996, Volume 272, Number 5258. Pgs 90-92.
		Chang, Luke L. Y. et al. "Condensed Phase Relations in the Systems ZrO ₂ -W O ₂ -WO ₃ and HfO ₂ - W O ₂ -WO ₃ ," <u>Journal of the American Ceramic Society, Ceramic Abstracts</u> . April 1967, Volume 50, Number 4, Pages 211-215.
		Holzer, Hermann, et al. "Phase transformation and thermal expansion of CU/ZrW ₂ O ₈ metal matrix composites." <u>Journal of Materials Research</u> . Volume 14, No. 3, March 1999, Pages 780-789.



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